

**PLEASE AMEND THE ABOVE-IDENTIFIED APPLICATION AS FOLLOWS:**

**In The Claims:**

Add new claims 513-529 as follows.

Sub  
6/13  
PX

-- 513. (NEW) The process according to claim 284, wherein said nucleic acid of interest comprises a member selected from the group consisting of *Streptococcus pyrogenes*, *Neisseria meningitidis*, *Staphylococcus aureus*, *Candida albicans*, *Pseudomonas aeruginosa*, *Neisseria gonorrhoeae*, *Mycobacterium tuberculosis*, and any combinations of the foregoing. --

-- 514. (NEW) The process according to claim 284, wherein said one or more oligo- or polynucleotides comprise a member selected or derived from the group consisting of *Streptococcus pyrogenes*, *Neisseria meningitidis*, *Staphylococcus aureus*, *Candida albicans*, *Pseudomonas aeruginosa*, *Neisseria gonorrhoeae*, *Mycobacterium tuberculosis*, and any combinations of the foregoing. --

-- 515. (NEW) The process according to claim 337, wherein said labeled oligo- or polynucleotide of interest comprises a member selected or derived from the group consisting of *Streptococcus pyrogenes*, *Neisseria meningitidis*, *Staphylococcus aureus*, *Candida albicans*, *Pseudomonas aeruginosa*, *Neisseria gonorrhoeae*, *Mycobacterium tuberculosis*, and any combinations of the foregoing. --

-- 516. (NEW) The process according to claim 396, wherein said nucleic acid of interest comprises a member selected or derived from the group consisting of *Streptococcus pyrogenes*, *Neisseria meningitidis*, *Staphylococcus aureus*, *Candida albicans*, *Pseudomonas aeruginosa*, *Neisseria gonorrhoeae*, *Mycobacterium tuberculosis*, and any combinations of the foregoing. --

-- 517. (NEW) The process according to claim 513, wherein said nucleic acid of interest comprises *Neisseria gonorrhoeae*. --

-- 518. (NEW) The process according to claim 514, wherein said one or more oligo- or polynucleotides comprise *Neisseria gonorrhoeae*. --

-- 519. (NEW) The process according to claim 323, wherein said bacterium is *Neisseria gonorrhoeae* and said antibiotic is selected from the group consisting of penicillin, tetracycline, aminoglycoside and combinations thereof. --

-- 520. (NEW) A process for determining the sequence of a nucleic acid of interest, comprising the steps of:

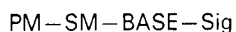
providing or generating labeled nucleic acid fragments complementary to said nucleic acid of interest or to a portion thereof, each of said labeled fragments comprising one or more modified nucleotides which comprise detectable or self-indicating labels and said one or more modified nucleotides being modified on the sugar, phosphate or base moieties thereof;

detecting the labeled nucleic acid fragments within a sequencing gel; and  
determining the sequence of said nucleic acid of interest. --

521. (NEW) A process for determining the sequence of a nucleic acid of interest, comprising the step of detecting within a sequencing gel one or more labeled nucleic acid fragments complementary to said nucleic acid of interest or to a portion thereof, each of said labeled fragments comprising one or more modified nucleotides which comprise detectable or self-indicating labels, said one or more modified nucleotides being modified on the sugar, phosphate or base moieties thereof. --

-- 522. (NEW) The process according to claims 520 or 521, wherein said modified nucleotide or nucleotides comprise a member selected from the group consisting of:

(i) a nucleotide having the formula



wherein

PM is a phosphate moiety,

SM is a furanose moiety,

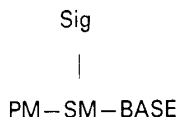
BASE is a pyrimidine, purine or 7-deazapurine, and

Sig is a detectable moiety,

wherein PM is attached to the furanose moiety SM at a position selected from the group consisting of the 2', the 3' and the 5' position, or any combination thereof, BASE is attached to the 1' position of SM from the N<sup>1</sup> position when BASE is a pyrimidine or the N<sup>9</sup> position when BASE is a purine or a 7-deazapurine, and Sig is covalently attached to BASE at a position

other than the C<sup>5</sup> position when BASE is a pyrimidine, at a position other  
than the C<sup>8</sup> position when BASE is a purine, and at a position other than the  
C<sup>7</sup> position when BASE is a 7-deazapurine;

(iii) a nucleotide having the formula



wherein

PM is a phosphate moiety,

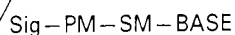
SM is a furanose moiety,

BASE is a pyrimidine, purine or 7-deazapurine, and

Sig is a detectable moiety,

said PM being attached to the furanose moiety SM at a position selected  
from the group consisting of the 2', 3', and 5' positions, or any combination  
thereof, said BASE being attached to the 1' position of SM from the N<sup>1</sup>  
position when BASE is a pyrimidine or the N<sup>9</sup> position when BASE is a purine  
or 7-deazapurine, and Sig is covalently attached to SM directly or through a  
linkage group; and

(iii) a nucleotide having the formula



wherein

PM is a phosphate moiety,

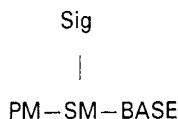
SM is a furanose moiety,

BASE is a pyrimidine, purine or 7-deazapurine, and

Sig is detectable moiety,

wherein PM is attached to the furanose moiety SM at a position selected  
from the group consisting of the 2', the 3' and the 5' position, or any  
combination thereof, BASE is attached to the 1' position of SM from the N<sup>1</sup>  
position when BASE is a pyrimidine or the N<sup>9</sup> position when BASE is a purine,  
and Sig is covalently attached to PM. --

-- 523. (NEW) The process according to claims 520 or 521, wherein said modified nucleotide



wherein

PM is a phosphate moiety,

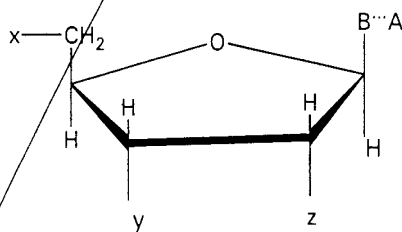
SM is a furanose moiety,

BASE is a pyrimidine, purine or 7-deazapurine, and

Sig is a detectable moiety,

said PM being attached to the furanose moiety SM at a position selected from the group consisting of the 2', 3', and 5' positions, or any combination thereof, said BASE being attached to the 1' position of SM from the N<sup>1</sup> position when BASE is a pyrimidine or the N<sup>9</sup> position when BASE is a purine or 7-deazapurine, and Sig is covalently attached to SM directly or through a linkage group; and

-- 524. (NEW) The process according to claims 520 or 521, wherein said modified nucleotide or nucleotides have the structure:



wherein B represents a purine, a 7-deazapurine or a pyrimidine moiety suitable for incorporation into a polynucleotide and covalently bonded to the C<sup>1</sup>-position of the furanose moiety, provided that when B is a purine or 7-deazapurine, the furanose moiety is attached at the N<sup>9</sup> position of the purine or deazapurine, and when B is a pyrimidine, the furanose moiety is attached at the N<sup>1</sup> position of the pyrimidine;

wherein A represents at least three carbon atoms and is an indicator molecule that is self-indicating;

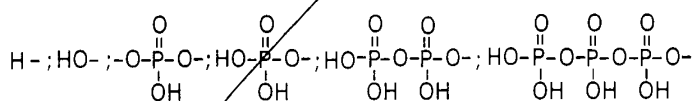
Sub  
Q14

wherein B and A are covalently attached directly or through a linkage group,  
said linkage group not interfering substantially with detection of A;

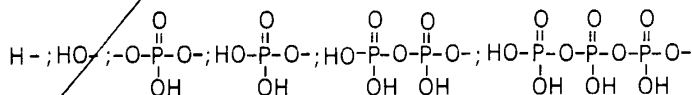
wherein if B is a purine, A is attached to the 8-position of the purine, if B is a 7-  
deazapurine, A is attached to the 7-position of the deazapurine, and if B is a  
pyrimidine, A is attached to the 5-position of the pyrimidine; and

wherein x comprises a member selected from the group consisting of:

P1  
cont



wherein y comprises a member selected from the group consisting of:



wherein z comprises a member selected from the group consisting of H-  
and HO-.

-- 525. (NEW) The process according to claim 520, wherein the detecting step  
comprises localizing said labeled nucleic acid or said labeled nucleic acid fragments  
by means of self-indicating nucleotide or nucleotides. --

Sub  
Q15

-- 526. (NEW) The process according to claims 520 or 521, wherein said nucleic  
acid of interest comprises or is derived from *Neisseria gonorrhoeae*. --

-- 527. (NEW) The process according to claim 332, wherein y and z comprise H. --

-- 528. (NEW) The process according to claim 348, wherein y and z comprise H. --

-- 529. (NEW) The process according to claim 524, wherein y and z comprise H. --

Dean L. Engelhardt, et al.

Serial No.: 08/486,069

Filed: June 7, 1995

Page 7 [Seventh Supplemental Amendment (Following Applicants' July 22, 1999  
Communication) - July 30, 1999]

Amend claims 330 and 336 as follows:

Claim 330, line 1, after "wherein said" and before "step is"  
change "incorporating" to -- providing -- .

Claim 336, line 1, after "wherein said" and before "step is"  
change "incorporating" to -- providing -- .

\* \* \* \* \*